



ANNUAL

# WATER QUALITY REPORT

*Water testing performed in 2008*



PWS ID#: 2850001

## Meeting the Challenge

We are proud to present to you our Annual Water Quality Report. This edition covers all testing completed from January 1 through December 31, 2008. We have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards, and we will continually strive to adopt new and better methods for delivering the best quality drinking water to you.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.



### Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

### Information on the Internet

The U.S. EPA Office of Water ([www.epa.gov/watrhome](http://www.epa.gov/watrhome)) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Georgia Environmental Protection Division has a Web site ([www.dnr.state.ga.us/dnr/environ](http://www.dnr.state.ga.us/dnr/environ)) that provides complete and current information on water issues in Georgia, including valuable information about our watershed.

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

**Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Where Does My Water Come From?

The City of LaGrange's water supply comes from the abundant resources of the Chattahoochee River and West Point Lake Reservoir. This resource contains sufficient quantities of water to supply our community's needs well into the future.

A source water assessment has been conducted on the City of LaGrange watershed as required by the Safe Drinking Water Act. The purpose of the assessment is to identify potential sources of contamination and the possible risk (susceptibility) that is imposed on our water supply. Our overall susceptibility to source water contamination was determined to be LOW. A copy of the report can be obtained from the City upon request.



## Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.

## Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted



by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, many bottled waters are actually just bottled tap water.

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at [www.nrdc.org/water/drinking/bw/exesum.asp](http://www.nrdc.org/water/drinking/bw/exesum.asp).

## Questions?

For more information about this report, or for any questions relating to your drinking water, please call the City of LaGrange at (706) 883-2130. You may also email us at [utilities@lagrange.net](mailto:utilities@lagrange.net) or visit our website at [www.lagrange-ga.org](http://www.lagrange-ga.org).



## Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from our water source and directed to a mixing tank where aluminum sulfate and polymers are added. The addition of these substances causes small mud particles and other contaminants to adhere to one another (called “floc”), making them heavy enough to settle into a basin from which they are later removed. Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges.

Chlorine is added again as a precaution against any bacteria that may still be present. We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste or causing other contaminants to form. Finally, sodium hydroxide (used to adjust the final pH and alkalinity), fluoride (used to prevent tooth decay), and a corrosion inhibitor (used to protect distribution system pipes) are added before the water is pumped to sanitized, underground reservoirs, water towers, and eventually to your home or business.

## Lead and Drinking Water

Elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water originates primarily from older service lines and home plumbing. Lead solder was banned in 1986, and plumbing fixtures were required to be lead free in 1998. If you live in a home that you suspect contains lead, there are steps you can take to reduce your exposure. When your water has been sitting for several hours, flush your tap for 30 seconds to 2 minutes before using water for drinking or cooking. You may also wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



## What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

*Serratia* will not survive in chlorinated drinking water.

## Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested more than 700 samples (more than 60 samples every month) for coliform bacteria. In that time, none of the samples came back positive for the bacteria. Federal regulations now require that public water testing positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliforms are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliforms to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

### Testing For *Cryptosporidium*

*Cryptosporidium* is a microbial parasite found in surface water throughout the United States. Although sedimentation and filtration remove the vast majority of *Cryptosporidium* spores that can occur in source water, these processes cannot guarantee 100 percent removal. Water samples collected from West Point Lake in the last year did not detect the presence of *Cryptosporidium*.

## What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at [www.epa.gov/safewater/crossconnection.html](http://www.epa.gov/safewater/crossconnection.html). You can also call the Safe Drinking Water Hotline at (800) 426-4791.

## Sampling Results

During the past year we have tested numerous water samples for the presence of radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. Testing is conducted to ensure strict compliance with the Safe Drinking Water Act. The table below shows those contaminants that were detected in the water. Although all of the substances listed here are below the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of a substance was present in the water.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES <sup>1</sup>							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2008	[4]	[4]	1.22	1.03–1.66	No	Water additive used to control microbes
Chlorine Dioxide (ppb)	2008	800	800	40	10–170	No	Water additive used to control microbes
Chlorite (ppm)	2008	1	0.8	0.48	0.2–0.8	No	By-product of drinking water disinfection
Fluoride (ppm)	2008	4	4	0.82	0.15–1.03	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2008	60	NA	9	9.0–29.0	No	By-product of drinking water disinfection
Nitrate	2008	10	10	1.1	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2008	80	NA	25.0	21.0–64	No	By-product of drinking water chlorination
Total Organic Carbon (ppm)	2008	TT	NA	1.71	1.5–2.0	No	Naturally present in the environment
Turbidity <sup>2</sup> (NTU)	2008	TT	NA	0.17	0.02–0.17	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2008	TT	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2006	1.3	1.3	0.13	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2006	15	0	2.5	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2008	200	NA	10	10–30	No	Erosion of natural deposits; Residual from some surface water treatment processes
Iron (ppb)	2008	300	NA	10	10–30	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2008	50	NA	10	10–40	No	Leaching from natural deposits

UNREGULATED SUBSTANCES					
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE	
Bromodichloromethane (ppb)	2008	10.0	NA	By-product of drinking water disinfection	
Bromoform (ppb)	2008	0.51	NA	By-product of drinking water disinfection	
Chlorodibromomethane (ppb)	2008	5.4	NA	By-product of drinking water disinfection	
Chloroform (ppb)	2008	9.1	NA	By-product of drinking water disinfection	
Sodium (ppm)	2007	1.3	NA	Naturally occurring	

<sup>1</sup>We were required by the U.S. EPA to conduct an evaluation of our distribution system under the new Disinfection Byproducts Rule. This Initial Distribution System Evaluation (IDSE) is intended to identify locations that could have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) form when disinfectants such as chlorine combine with organic matter that naturally occurs in source water.

<sup>2</sup>Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

## Definitions

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water

below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.